

# Industrial Kettles



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**STAINLESS STEEL  
& ALLOY MATERIAL**

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**ASME TANKS**

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**REACTORS**

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**COLUMNS**

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**MIXING VESSELS**

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**PORTABLE BINS**

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**CUSTOM FABRICATING**

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Sustainability through  
Superior Engineering

# Industrial Kettles



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## Types of Tanks

**PerMix** has extensive experiences and The following is a partial listing of some of the custom capabilities in the design and fabrication of Stainless designed tanks that we have manufactured.

Steel Vessels and is readily available to meet whatever your project's criteria are.

Your inquiry will receive our prompt and detailed attention. After a careful review of your concept, design, criteria and/or drawings, a detailed quotation will be prepared and forwarded to you.

Our many years of experience will simplify the process of concept, quotation and product manufacture.

- WF1 Tanks
- Batch Tanks
- Bioreactors
- Pressure Tanks
- Fermentation Tanks
- Vacuum Tanks
- Purified Water Tanks
- Agitated Tanks
- Portable Transfer Tanks
- Jacketed Tanks
- Buffer Tanks
- Storage Tanks
- Pilot Plant Vessels
- R & D Tanks

## Quality Assurance

**PerMix** tanks and processing equipment are built in accordance with the guidelines set forth by the ASME, FDA, GMP, USDA, 3A and UL. Our engineering, manufacturing and quality control personnel have an unsurpassed industry wide reputation for both product quality and reliability. Every piece of equipment is repeatedly tested during all stages of production to insure total quality and reliability.

In addition, the customer is always welcome to visit our plant during any stage of the manufacture of their product.

## Applications

- Food
- Confectionery
- Pharmaceuticals
- Biotech
- Personal Care
- Dairy
- Flavors
- Plastics
- Adhesives
- Epoxies
- Rubber
- Pellets
- Resins
- Pneumatic Conveying
- DI Water
- Paint
- Pigments
- Abrasives
- Water Treatment
- Cleaning Solutions
- Distilled Spirits

## Sanitary Processors



Sanitary design and construction provides easy cleaning and sterilization. Product contact surfaces are polished to remove imperfections from welding and fabrication. The tank surface can be further polished to a 12/5 RA (320/400 grit) finish electropolished and passivated for high purity applications.



Material selection and required sanitary components are furnished based on your specific application. Our engineering staff will design your tanks based upon your application and standards set forth by the ASME, GMP, FDA, 3A, USDA, and UL.

All jackets located on the tank's side walls and bottom can be utilized for heating and cooling. The tank's interior is designed for operating with both vacuum and pressure applications. The removable head is sealed with standard "O" rings and swings bolts to allow for complete access into the vessel.

# Industrial Processors

**PerMix's** craftsmen fabricate pressure vessels and jacketed tanks in accordance with the latest edition of the ASME code standards. As required, the vessels can be ASME Code stamped, Section VIII, Div. I and registered with the National Board. Our engineering staff assures the utmost in accuracy when designing your vessel. ASME pressure vessels and jacketed tanks are hydro-tested and examined by an ASME trained and qualified inspector.

## Heat transfer options

- Dimple jacket
- Open jacket
- Internal Coil
- Self Contained Electric Band Heater
- Internal Hot Water Generator



## ASME CODE TANK

### OPTIONS

- VACUUM
- INTERNAL PRESSURE
- INSULATION
- 304L STAINLESS STEEL
- 316L STAINLESS STEEL
- ALLOY FABRICATION
- SANITARY DESIGN
- MECHANICAL SEALS
- NOZZLES
- GAUGES
- GASKETS
- MANWAYS

# Open and Closed Top Vertical Tanks

Our extensive line of standard size tanks allows us to offer short lead times and a very competitive price.

Choose from our many standard models or allow us to custom design a tank to meet your exact needs. We offer a variety of finishes from 2B, No. 4, No. 7 (mirror) to electropolish.

We pride ourselves on our up-to-date Computer Assisted Design (CAD) engineering group. Our engineers have many years of experience in designing tanks, pressure vessels and other processing equipment. Exacting drawings and photo realistic renderings can be generated and delivered to our customers by E-mail, fax or conventional mail.



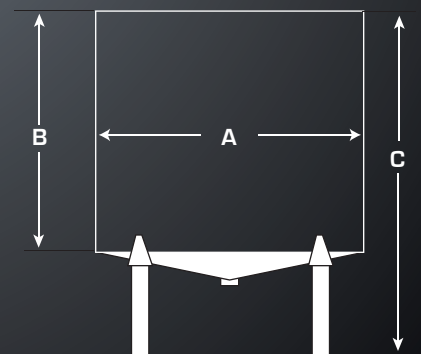
## Series D Deluxe Vertical Tanks

- Seamless sanitary construction
- Polished sanitary (No. 4) finish inside and out
- Complete drainage
- Heavy gauge construction
- Tanks can be supplied with or without mixers
- Heavy duty adjustable pipe legs
- Stainless steel leg sockets eliminate strain and metal fatigue at the tank interface
- Many standard designs allow for fast delivery
- Open top or closed top with manway
- Variety of different bottoms available i.e. cones, dished, sloped flat, etc.

## Series E Economy Vertical Tanks

- Same high quality as D Series
- 2B finish is suited for applications where polished surfaces are not required

Rated Gallons	Actual Gallons	A	B	C	Approximate empty weight
30	36	21	24	37	52
60	63	22.8	36	49	70
100	114	30.5	36	49	90
160	176	38	36	49	155
200	235	38	48	61	190
300	341	45.8	48	61	227
500	551	52	60	73	375
800	850	64	60	74.5	537
1000	1114	67	72	87	824
1500	1686	76.3	84	99.5	1042
200	2150	86	84	99.5	1330
3000	3025	95.5	96	120	1678
5000	5240	108	132	156	2624



## Batch Cans



### Features

- Sizes up to 150 gallon
- 16ga. 304 Stainless Steel
- #12B finish
- Bottom reinforcement ring keeps the bottom of the tank of the floor
- Options available:
  - Loose fit cover (one piece or two piece)
  - Mixer slot in cover
  - Handles (std. on 75 gal. and larger)

Model	Gallon Capacity	Inside Diameter	Overall Height	Gauge
BC 20	20	16 1/4"	24"	16
BC 30	30	18"	30"	16
BC 50	50	22 3/4"	30"	16
BD 60	60	22 3/4"	36"	16
BC 75	75	28"	30"	16
BC 100	100	30"	36"	16
BC 125	125	30"	42"	16

## Mix Tanks

### Features

- Top entering or side entering
- Propeller, axial blade, scraped surface or high shear
- Tanks can be atmospheric or pressurized
- Specializing in custom configurations



# Hemispherical Steam Jacketed Kettles

## PerMix ThermiChill TA:

Designed for heavy duty processing. This strong and reliable agitation features a twin shaft with twin, independent, SEW Eurodrive gear boxes. This deluxe agitator provides finger-like scraper blades which scrape side and bottom walls and swirl the processed material toward the secondary mixer for continuous, all inclusive agitation. The secondary mixer rotates in the opposite direction of the main agitation, which adds turbulence for efficient mixing.

- Capacities from 20 gallons to 1,000 gallons •

## PerMix ThermiChill RA:

Designed for processing light to medium-heavy materials, this agitator configuration features a single anchor type agitator frame with finger type scrapers which carry processed material from kettle wall into two baffles. The baffles provide turbulence and a "Figure 8" type blending action.

- Capacities from 10 gallons to 1,000 gallons •

**Designed for heavy duty processing. This strong and reliable agitation features a twin shaft with twin, independent, SEW Eurodrive gear boxes. This deluxe agitator provides finger-like scraper blades which scrape side and bottom walls and swirl the processed material toward the secondary mixer for continuous, all inclusive agitation. The secondary mixer rotates in the opposite direction of the main agitation, which adds turbulence for efficient mixing.**

## PerMix ThermiChill INA:

Designed to handle medium to heavy viscous materials containing solid particles that tend to settle or float. The inclined agitation provides a flip and fold technology of mixing that ensures uniform mixing of product, while being gentle on product and limiting product resizing or breakage.

- Capacities from 40 gallons to 500 gallons •
- Minimum capacity for effective mixing of product is 80% of total capacity ••

## PerMix ThermiChill INA/2:

Designed to handle medium to heavy viscous materials containing solid particles that tend to settle or float. The inclined agitation provides a flip and fold technology of mixing that ensures uniform mixing of product, while being gentle on product and limiting product resizing or breakage. The secondary mixer provides quick and effective mixing of additives into viscous products.

- Capacities from 40 gallons to 500 gallons ••
- Minimum capacity for effective mixing of product is 80% of total capacity ••





# Mixers

**PerMix** can provide the solution to your mixing needs. From simple portable mixers for low viscosity products to heavy-duty axial blade mixers for large batches and highly viscous products, our fluid mixing engineers can match the proper mixer to you specific application.



## Portable and Fixed Mount Mixers

- Low viscosity or small batch sizes
- Tank sizes from 10 gallons to 2,000 gallons
- Viscosity from water-like to 5,000 CPS
- Air, TEFC or XP motors are available
- Clamp mount or cup plate mount
- Marine propellers
- Single or dual blade



## Various Styles & Types of Mixers to Meet Application Needs

- Tank size up to 50,000 gallons
- High shear, high speed mixing, homogenizing, liquefiers, and other types available
- Sanitary design
- Multiple mounting styles available

# Hoppers and Bins

**PerMix** will both design and fabricate any Stainless Steel hopper and bin for the handling of powders and bulk solids. The hoppers and bins can be customized to your drawings and specifications, or manufactured to one of our many standard designs. A wide range of capabilities, dimensions and configurations are available. Our in-house engineering and manufacturing staff is dedicated to meet small or large requirements with the same attention to detail and professionalism.

Some of the options available when designing a custom stainless steel hopper are: 30 degree, 45 degree or 60 degree cone bottoms; tapered offset cone bottoms; open or closed top head; portable units on casters; channels for forklift or pallet jack; stackable units; manual or pneumatic flow control valves; sanitary design with radius corners; covers with fill ports; push handles.

We fabricate our hoppers and bins using experienced workers and the highest quality materials. We stock 304 and 316 stainless steel alloy with #4 polish and 2B finish. For sanitary applications, the weld seams are ground smooth and flush to remove pits and crevices to facilitate cleaning, discharging and minimize contamination. Our finishing capabilities include a standard #4 polish and finer polishing such 180, 240, 320 grit, mirror finish and electropolishing when requested.



## HOPPER-BIN SYSTEMS

- WEIGHING
- TRANSFER
- BLENDING
- FILLING
- DISCHARGING
- STORAGE
- WASHING

## APPLICATIONS

- PHARMACEUTICALS
- POWDERS
- GRANULATIONS
- CHEMICALS
- FOODS
- PLASTICS



# Steel Fabrication

- Professional Engineering Staff
- CAD Design
- ASME Certified Welders "U" and "R"
- Steel Plate Fabrication from Carbon
- Steel, Stainless Steel and Aluminum
- Painting
- Galvanizing
- Complete Electrical Control Systems
- Polishing Services to Mirror Finish

## Equipment Fabricated

- Hoppers
  - Chutes
  - Feeders
  - Material Handling
  - Tanks
  - Cyclones
  - Screw Conveyors
  - Stacks
  - Condensers
  - Evaporators
  - Piping Systems
  - Pumping Systems
  - Fillers
- Specialized Equipment for the Food, Chemical, Pharmaceutical and related industries



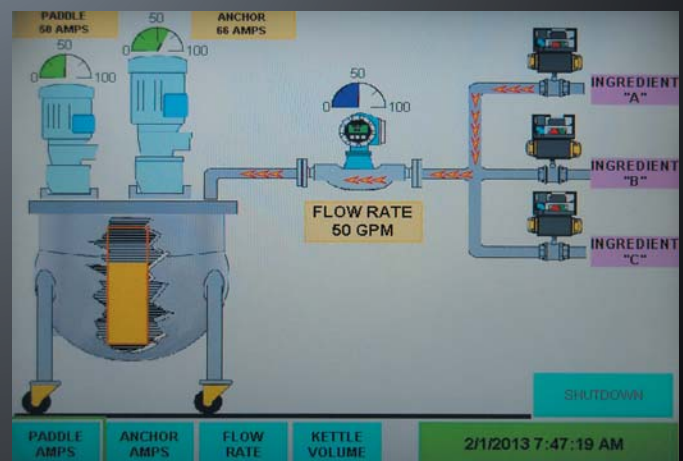
CAD Design



Custom Automated Production Lines



Complete R&D Facility Design



Automated Dosing Systems



# PerMix

Perfect Mixing Technologies



**Sustainability through Superior Engineering**

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